

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002089**Date Inspected:** 04-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1730**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 800**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and Tower**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

New Tower Shop:

89 Mock Up:

The Qa Inspector randomly observed ZPMC Non-Destructive Technician Zhou Dongyun utilizing the Magnetic Particle Testing (MT) Method to examine an excavation in Weld Joint (WJ) MUSB-MA25-18A(18B) in 89M Mock Up Strut Plate Assembly Musb-MA25. There appeared to be no indications and ZPMC QC accepted the excavation. The work was being performed in accordance with ZPMC Critical Weld Repair (CWR) CWR076.

The QA Inspector randomly observed ZPMC welder Tan Xiangbo, utilizing the Shielded Metal Arc Welding (SMAW) with ZPMC WPS WPS-485-SMAW-FCM-2G(2F) Repair, to perform a repair to an excavated section of WJ MUSB-MA25-18A(18B) in the 89M Tower Mock Up. The QA Inspector randomly observed ZPMC CWI Xu Le Feng monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Xia Yong Zhong ID Number 040625, utilizing the Submerged Arc Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC Weld Procedure Specification (WPS) WPS-B-T-3221-B-U3c-S-1, to weld the fill pass on Weld Joint (WJ) Number SSD1-SA107D/J-16B on the butt splice between Skin Plate Sub-Assembly SA107(S) to p882(S). The QA

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Inspector randomly observed ZPMC CWI Xu Le Feng monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 694 amps, 33.1 volts with a travel speed of 600 millimeters (mm) per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Xu Yan ID Number 052917, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-3221-B-U3c-S-1, to weld the fill pass on WJ Number SSD1-SA15A/F-13A on the butt splice between Skin Plate Sub-Assembly SA15(S) to p117(S). The QA Inspector randomly observed ZPMC CWI Xu Le Feng monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 650 amps, 32.9 volts with a travel speed of 650 mm per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations on Skin Plate Sections per ZPMC Heat Straightening Request (HSR) HSR1(T)-521 p144(S), HSR1(T)-508 p37(S), HSR1(T)-512 p123(S)-p1302(E), HSR1(T)-507 p790(W), HSR1(T)-453 p36(E) and HSR1(T)-462 SA653(W) to remove mill distortion.

The QA Inspector randomly observed a ZPMC Torch Cutting Operator utilizing a track mounted torch cutting apparatus to cut bevels on steel for side plate fabrication. The attached photograph provides additional detail.

New OBG:

The QA Inspector randomly observed ZPMC welder Gao Donliang ID Number 048714, utilizing the Flux Cored Arc Welding (FCAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-223(2)-1T, to weld the hot pass in the butt splice on WJ SEG013A-002 on Side Plate Sub-Assembly SP009-001/SP017-001 to SP025-001. The QA Inspector randomly observed ZPMC CWI Chen Chih-Ming monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 290 amps, 29.5 volts with a travel speed of 207 mm per minute. The weld parameters appeared to comply with contract requirements.

Bay 1 OBG:

The QA Inspector performed a Visual Inspection of 100% of the WJ's 001 through 010 on Deck Plate Assembly DP463-001, and recorded the data on a separate spreadsheet.

Bay 3 OBG:

The A Inspector randomly observed ZPMC welding personnel performing heat straightening operations on Side Plate Sections per ZPMC HSR1(B)-338 5BE SP146 and HSR1(B)-368 5CW SP472 remove distortion from welding operations attaching T-Ribs to the Side Plates.

The QA Inspector randomly observed ZPMC welder Dai Liu ID Number 048659, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-P-2112, to tack weld I-Ribs to Side Plate SP409-001. The QA Inspector randomly observed ZPMC CWI Huang Wen-Pang monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 179 amps, 23.6 volts with a travel speed of 117 mm per minute. Weld parameters appeared to comply with contract

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requirements.

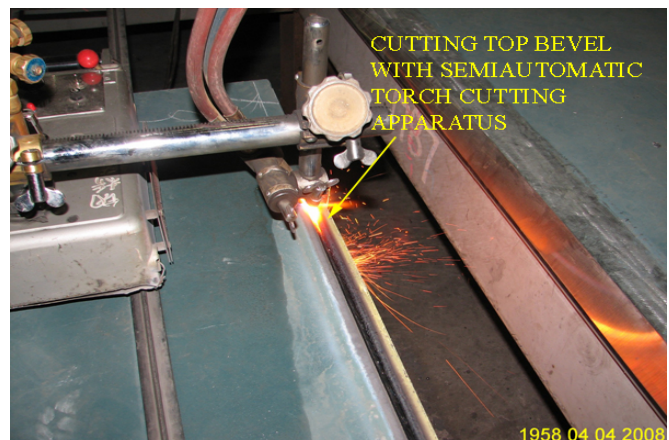
Bay 4 Tower:

The QA Inspector randomly observed ZPMC welder Jiang Jing Teng ID Number 046830, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-3221-B-U3c-S-1, to weld the fill pass in WJ ESD1-SA317-3A/4A on A38M BTM Tower Diaphragm Sub-Assembly SA317(E) to p831(E). The QA Inspector randomly observed ZPMC CWI Zhao Chen Sun monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 628 amps, 31.2 volts with a travel speed of 500 mm per minute. The weld parameters appeared to comply with contract requirements.

Bay 7 OBG:

The QA Inspector randomly observed ZPMC welder Wang Min ID Number 048296, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-L3c-S-1, to weld the fill and cover pass on butt splices of various Floor Beam Diaphragm (T=30 mm to T=12 mm) Web Sub-Assemblies. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 535 amps, 29.3 volts with a travel speed of 425 mm per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Hong Shuili ID Number 044815, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-TC-U4b-F, to weld Flange X73A to the edge of Floor Beam Sub-Assembly FB017-02-18. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 298 amps, 29.5 volts with a travel speed of 317 mm per minute. The weld parameters appeared to comply with contract requirements.



Summary of Conversations:

There were no relevant conversations.

Comments

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This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Franco,Charlie	Quality Assurance Inspector
Reviewed By:	Hager,Craig	QA Reviewer
